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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,290	04/25/2001	Janez Pirs	38787-171294	8253
26694	7590	10/01/2004		
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998				
			EXAMINER LESPERANCE, JEAN E	
			ART UNIT 2674	PAPER NUMBER 10

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/830,290

Applicant(s)

PIRS ET AL.

Examiner

Jean E Lesperance

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 and 22-24 is/are allowed.
- 6) ☒ Claim(s) 13-17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The amendment filed on 4/8/2004 is entered.

### **Drawings**

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation time integral value remains within a predetermined interval Vcl "less or equal to" Int "less or equal to" Vc2 must be shown or the feature(s) canceled from the claim(s) 13. Figures 4 and 6 do not seem to show the claimed predetermined interval. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-17, 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the amplitudes of the electric driving signals" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 is indefinite because it is not clear what is the difference between "the square-wave electric driving signals and the amplitudes of the electric driving signals". How can "the square-wave electric driving signals be applied to the amplitudes of the electric driving signals? Consequently, there is a need of clarification for "time integral value of the driving voltage"

Claim 14 is further indefinite because of phrase "DC voltage component of the electric driving signals" (claim 13, page 3, lines 5 and 6).

Claim 15 is further indefinite because it is not clear what is the difference between the driving signals of changing polarity and amplitude (claim 15, page 3, lines 3 and 4) and the electric driving signal (claim 15, page 3, lines 11 and 12).

Claim 17 is indefinite because it is not clear what is the difference between "the driving electric signals of changing polarity and signal amplitude (claim 17, page 5, lines 3 and 4) and the electric voltage  $V_{lcd}$  (claim 17, page 7, line 29).

#### **Allowable Subject Matter**

4. Claims 18 and 22-24 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

5. Claims 13, 17 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

6. Claims 14-16, 19-21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

As to claims 13-16, none of prior art teaches a method of driving an LCD or LC electrooptic switching element comprising steps of integrating a potential difference between the two electrodes of a LC electrooptic switching element, and controlling change of polarity of electric driving signals such that the time integral value remains within a predetermined interval.

As to claims 17-24, none of prior teaches an electronic circuitry for the implementation of an electrooptic switching element method comprising a control flip/flop circuit, a second analog switch, and a voltage translator.

### ***Response to Amendment***

7. Applicant's arguments filed 4-8-2004 have been fully considered but they are not persuasive. The amendment of claim 13 to correct the objection of the drawings is not acceptable to the examiner because the limitation "the time integral value  $\text{Int}$  remains within a predetermined interval  $V_{c1}$  less or equal to  $\text{Int}$  less or equal to  $V_{c2}$ . where  $V_{c1}$  and  $V_{c2}$  are electric potentials input to a reference input of a respective comparator" is still not shown in Figs 4 and 6. Correction of the drawings is required. The amendment of claims 13-17 and 19-21 cannot help as is to overcome the 112 rejection. They are still indefinite and contain informalities. The objection of claim 17 is withdrawn. The

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applicant need to amend the claims to be clear and definite to overcome the rejection under 35 USC 112, second paragraph. Therefore, the rejection is maintained.

### CONCLUSION

8. The prior art made of record is not relied upon but pertinent to Applicant's disclosure.

US Patent	Yatabe	6,188,395
US Patent	Handschy et al.	6,507,330
US Patent	Edwards et al.	4,121,203
US Patent	Kanayatna et al.	5,047,789
US Patent	Kuwata et al.	5,489,910
US Patent	Schaller	5,689,206
US Patent	Roberge et al.	5,189,376
US Patent	Ishioka	5,216,426
US Patent	Lipton	5,181,133
US Patent	Okumura et al.	6,331,844
US Patent	Barbier	5,239,293

Reference Yatabe is made of record as it discloses a liquid crystal display device showing alternate current driving and time integral value of waveform.

Reference Handschy et al. is made of record as it discloses DC-balances drive scheme for liquid crystal devices.

Reference Edwards et al. is made of record as it discloses AC driving for liquid crystal displays, using a polarity reversal circuit.

Reference Kanayama et al. is made of record as it discloses a method for driving and controlling a liquid crystal shutter array.

Reference Kuwata et al. is made of record as it discloses a liquid crystal device comprising a differential amplifier and an integrator.

Reference Schaller is made of record as it discloses a SC-integrator comprising an integrating capacitor.

Reference Roberge et al. is made of record as it discloses an integrator and comparator.

Reference Ishioka is made of record as it discloses a A/D converter comprising an integrator and comparator.

Reference Lipton is made of record as it discloses a drive method for twisted nematic liquid crystal shutters.

Reference Okumura et al. is made of record as it discloses a liquid crystal display apparatus comprising an integrator in each pixel.

Reference Barbier is made of record as it discloses a liquid crystal display comprising an integrator and a comparator.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (703) 308-6413. The examiner can normally be reached on from Monday to Friday between 8:00AM and 4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on (703) 305-4938 .

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

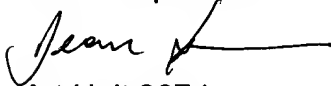
**or faxed to:**

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA, Sixth Floor (Receptionist).

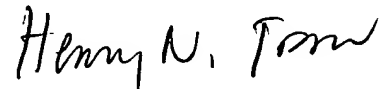
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Jean Lesperance



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Date 9-29-2004



**HENRY N. TRAN  
PRIMARY EXAMINER**